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John W. Stewart

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EXAMINER

GEREZGIHER, YEMANE M

ART UNIT

PAPER NUMBER

2144

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/660,303	Applicant(s) STEWART ET AL.	
	Examiner Yemane M. Gerezgiher	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/08/2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. This application has been examined. Claims 1-51 are pending.

***Information Disclosure Statement***

2. The Examiner has considered the references listed on the Information Disclosure Statement submitted on 01/08/2004 (see attached PTO-1449).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 17-19, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Goringe et al (U.S. Patent Number 7,069,343) hereinafter referred to as Goringe.

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As per claim 17: A network device (Fig. 3) comprising a routing communication manager that receives a routing communication that indicates that at least one network device supports performance monitoring (agents # 308, 310 # 316 of Fig. 3, Fig. 23 # 2400-2412 and Column 3, Lines 19-46, topology discovery using a routing information defined by a routing protocols), wherein in response to the routing communication the routing communication manager generates a data structure that identifies the network device that support performance monitoring (Column 13, Lines 3-10, Figs. 18-21 and Column 9, Line 64 through Column 10, Line 60, table (data structure) constructed based on the communication devices determined to support performance monitoring including therein routing information of all discovered communication devices using the routing protocols).

As per claim 18: the routing communication manager generates an outbound routing communication in accordance with the routing protocol, and sends the outbound routing communication to the network device identified in the data structure via a routing communication protocol, wherein the outbound routing communication identifies the sending network device as a supporter of performance monitoring (Figs. & 23, Column 3, Line 19 through Column 4, Lines 17, Network monitorable devices discovered/identified via a discovery agent or manager).

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As per claim 19: wherein the outbound routing communication includes an identifier associated with the sending network device and an indicator that indicates the sending network device is capable of supporting performance monitoring (Column 3, Lines 19-46 and Column 5, Lines 9-64).

As per claim 33: wherein the network performance statistics include at least one of network delay, network jitter, network throughput, network availability and network packet loss (Column 1, Line 46 through Column 2, Line 45, Goringe addressed plurality of network performance monitoring applications including OpenView <sup>TM</sup>, Netview <sup>TM</sup> and other applications which actually are mainly used to collect performance statistics to determine multiple network related problems over a monitored communication network).

As per claim 34: Goringe disclosed that the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System - Intermediate System (ISIS), and Routing Information Protocol (RIP) (See Column 14, Lines 41-46).

As per claim 41: Goringe disclosed a network device (Fig. 3 # 300) comprising: a routing communication manager that exchanges routing communications in accordance with a routing protocol with other network devices to define a community that collects network performance information (agents # 308, 310 # 316 of Fig. 3, Fig. 23 #

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2400-2412 and Column 3, Lines 19-46, Discovery agents performing topology discovery using a routing information defined by plurality of routing protocols); and a performance monitoring service card that manages performance sessions with the network devices of the community (Column 3, Line 19 through Column 4, Line 17 and Column 5, Line 9 through Column 6, Line 31, performance monitoring using SNMP sessions in accordance with device discovery utilizing a routing protocols and performance collecting using probes/agents over the discovered devices over the network).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16, 20-32 and 35-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goringe et al (U.S. Patent Number 7,069,343) in view of Beigi et al (U.S. Patent Number 6,363,056) hereinafter referred to as Beigi.

As per claims 1 and 46: Goringe disclosed a method and a computer readable storage medium storing therein computer executable instructions comprising: receiving a routing communication in

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accordance with a routing protocol (Abstract, Fig. 23 # 2400-2412 and Column 3, Lines 19-46, topology discovery using a routing information defined by a routing protocols), wherein the routing communication identifies at least one network device that supports performance monitoring of a network (Column 3, Line 49 through Column 4, Lines 17); and sending a performance probe to the network device to collect network performance statistics (Column 5, Lines 9-64, characteristics of network devices selected information is collected via data collection agents/probes deployed on the monitorable network devices). Goringe substantially disclosed the invention as claimed. However, Goringe failed to explicitly describe the function of sending a performance probe to a network device to collect network performance statistics. However, as evidenced by the teachings of Beigi, sending a performance probe to a network device to collect network performance statistics was known in the art at the time the invention was made (see Beigi, Abstract, Fig. 2 # 217, Fig. 4 # 405 →409, Fig. 8, # 805→809, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8). Thus, it is respectfully submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Beigi related to generating and sending probes to a network communication device to collect network performance statistics and have modified the teachings of Goringe in order to allow “proactively monitor the delays between two access points belonging to a customer to

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verify if the delays exceed the desired bounds”, by performing “a continuous monitoring of network performance” to “determine the level of service provided and/or to determine if there are any problems between two network access points” (Beigi, Column 2, Lines 9-17).

As per claim 2: Goringe further disclosed that the receiving a routing communication includes receiving a plurality of routing communications that identify network devices that support performance monitoring of a network and further comprising dynamically generating data to identify the network devices that support performance monitoring in response to the communications (Column 3, Lines 19-46 and Column 5, Lines 9-64).

As per claim 3: Goringe disclosed that the routing communication includes an identifier associated with the network device and an indicator that indicates the network device is capable of supporting performance monitoring (Column 5, Lines 9-40 and Column 6, Lines 4-67).

As per claims 4 and 47: Goringe disclosed generating an outbound routing communication in accordance with the routing protocol; and sending the outbound routing communication to the network device that support performance monitoring via the routing protocol, wherein the outbound routing communication identifies at least the sending network device as a supporter of performance monitoring (Column 3, Line 19 through Column 4, Lines 17).

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As per claim 6: Goringe disclosed that sending the performance probe comprises sending a plurality of performance probes (Column 3, Lines 42-66).

As per claim 7: Goringe disclosed that each of the performance probes is addressed to a common destination network device (Column 3, Lines 42-66 and Column 12, Lines 4-10).

As per claims 5 and 48: generating the performance probe to include a timestamp that indicates a time at which the probe was sent (Beigi, Column 7, Lines 22-27 and Column 8, Lines 30-35, & Lines 50-56).

As per claim 8: The already combined teachings of Goringe and Beigi disclosed that each of the performance probes is associated with the same quality of service level (Beigi, Column 2, Lines 14-58).

As per claim 9: The already combined teachings of Goringe and Beigi disclosed that sending the plurality of performance probes comprises sending the plurality of performance probes at a periodic rate over an interval of time (Beigi, Column 6, Lines 9-13 and Column 10, Lines 56-63).

As per claim 10: sending a first performance probe having a first quality of service level to the network device; and sending a second performance probe having a second quality of service level to the network device (Beigi, Column 2, Lines 14-58 and Column 6, Lines 1-67).

As per claims 11 and 49: The already combined teachings of Goringe and Beigi disclosed receiving a response to the performance probe from the network device; adding timestamp to the response to indicate the time of reception of the response; and storing information contained in the response (Beigi, Column 7, Lines 26-35 and Column 8, Lines 30-56).

As per claims 12 and 50: The already combined teachings of Goringe and Beigi disclosed forwarding the stored information to a centralized computing device for computing comprehensive network performance statistics (Beigi, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 13: The already combined teachings of Goringe and Beigi disclosed that computing the network performance statistics from the information contained in the response; and forwarding the network performance statistic to a centralized device for computing comprehensive network performance statistics (Beigi, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claims 14 and 51: The already combined teachings of Goringe and Beigi disclosed receiving an inbound performance probe from the network device; and sending a response to the inbound performance probe to the network device, wherein the response to the performance probe includes the received performance probe and a

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timestamp indicating the time of reception of the inbound performance probe (Beigi, Column 7, Line 22 through Column 8, Line 56 and Column 9, Line 32 through Column 10, Line 15).

As per claim 21: The already combined teachings of Goringe and Beigi disclosed the performance monitoring manager generates a performance probe that includes a timestamp and sends the performance probe to the network device identified in the data structure to collect the network performance statistics (Beigi, Column 4, Lines 1-14, Column 6, Lines 39-63, Column 8, Lines 30-56, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 22: The already combined teachings of Goringe and Beigi disclosed the performance monitoring manager sends each of performance probe to a same destination network device (Beigi Column 7, Lines 22-35 and Column 8, Lines 30-56).

As per claim 23: The already combined teachings of Goringe and Beigi disclosed each performance probe being associated with the same quality of service level (Beigi, Column 2, Lines 14-58).

As per claim 24: wherein the performance monitoring manager sends each performance probe at a periodic rate over an interval of time (Beigi, Column 6, Lines 9-13 and Column 10, Lines 56-63).

As per claim 25: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring manager sends a first

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performance probe associated with a first quality of service level to the network device identified in the data structure and a second performance probe associated with a second quality of service level to the network device (Beigi, Column 2, Lines 14-58 and Column 6, Lines 1-67).

As per claim 26: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring manager receives a response to each of the performance probes, adds a timestamp to each of the responses to indicate the time of reception of the responses, and stores information contained in the responses (Beigi, Column 7, Lines 26-35 and Column 8, Lines 30-56).

As per claim 27: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring manager forwards the stored information to a centralized computing device for computing comprehensive network performance statistics (Beigi, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 28: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring manager computes the network performance statistics from the information contained in the response and forwards the network performance statistics to a centralized device for computing comprehensive network

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performance statistics (Beigi, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 29: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring manager receives an inbound performance probe from the network device identified in the data structure and sends a response to the inbound performance probe, wherein the response includes the received performance probe and a timestamp indicating the time of reception of the inbound performance probe (Goringe, Column 7, Line 22 through Column 8, Line 56 and Column 9, Line 32 through Column 10, Line 15 and Beigi, Column 7, Lines 26-35 and Column 8, Lines 30-56)).

As per claim 32: The already combined teachings of Goringe and Beigi disclosed that a dedicated service card that implements the performance monitoring manager (Beigi, Fig. 9 # 907→911→913).

As per claim 15: Goringe disclosed that the network performance statistics includes at least one of network delay, network jitter, network throughput, network availability and network packet loss (Column 1, Line 46 through Column 2, Line 45, Goringe addressed plurality of network performance monitoring applications including OpenView <sup>TM</sup>, Netview <sup>TM</sup> and other applications which actually are mainly used to collect performance statistics to determine multiple network related problems over a monitored communication network).

As per claim 16: Goringe disclosed that the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Intermediate System - Intermediate System (ISIS), and Routing Information Protocol (RIP) (See Column 14, Lines 41-46).

As per claim 20: Goringe substantially disclosed the invention as claimed. However, Goringe failed to explicitly describe the function of sending a performance probe to a network device to collect network performance statistics at the discovered network device. However, as evidenced by the teachings of Beigi, sending a performance probe to a network device to collect network performance statistics was known in the art at the time the invention was made (see Beigi, Abstract, Fig. 2 # 217, Fig. 4 # 405 →409, Fig. 8, # 805→809, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8). Thus, it is respectfully submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Beigi related to generating and sending probes to a network communication device to collect network performance statistics and have modified the teachings of Goringe in order to allow “proactively monitor the delays between two access points belonging to a customer to verify if the delays exceed the desired bounds”, by performing “a continuous monitoring of network performance” to “determine the level of service provided and/or to determine if there are any problems between two network access points” (Beigi, Column 2, Lines 9-17).

As per claim 30: The already combined teachings of Goringe and Beigi disclosed a processor and wherein at least one of the routing communication manager and the performance monitoring manager comprises a software process executing on the processor (Goringe Fig. 3 and Column 5, Lines 44-64).

As per claim 31: The already combined teachings of Goringe and Beigi disclosed that at least one of the routing communication manager and the performance monitoring manager are executed in hardware (Goringe, Figs 3-7, a routing agent according to plurality of routing protocols being executed on a communication device).

As per claim 35: Goringe disclosed a system comprising: network devices that exchange routing communications with one another in accordance with a routing protocol to identify network devices that collect network performance information via performance probes (Abstract, Fig. 23 # 2400-2412, Column 3, Line 19 through Column 4, Lines 1, an apparatus utilized for topology discovery using a routing information defined by a routing protocols); and a statistical computing device that aggregates performance information from the network devices and computes collective network performance information for the network devices based on the aggregated performance information (Column 5, Lines 9-64, characteristics of network devices and selected information is collected via data collection agents/probes deployed on the

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monitored network devices). Goringe substantially disclosed the invention as claimed. Goringe taught the use of MIB deployed on each of the discovered communication devices where performance information is collected with SNMP probes/agents. Given the teachings of Goringe, and the conventional performance monitoring of a communication network commonly involves a centralized devices that aggregates the collected performance statistics collected by each probe/agent for purposes of generating the overall statistical performance status/fact or report of the monitored communication devices over the monitored network. Nevertheless, Goringe was silent about statistical computing device that aggregates performance information from the network devices and computes collective network performance information for the network devices based on the aggregated performance information. However, as evidenced by the teachings of Beigi, a statistical computing device that aggregates performance information from the network devices and computes collective network performance information for the network devices based on the aggregated performance information (see Beigi, Abstract, Column 2, Lines 33-58, Column 3, Line 49 through Column 4, Line 22, Column 10, Lines 10-17 and Column 11, Lines 4-8) Column 2, Lines 33-58, Column 10, Lines 10-17 and Column 11, Lines 4-8). Thus, it is respectfully submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Beigi related to generating and sending probes to a network

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communication device to collect network performance statistics, which correlates the collected performance at a centralized device and have modified the teachings of Goringe in order to allow "proactively monitor the delays between two access points belonging to a customer to verify if the delays exceed the desired bounds", by performing "a continuous monitoring of network performance" to "determine the level of service provided and/or to determine if there are any problems between two network access points" (Beigi, Column 2, Lines 9-17.

As per claims 36 and 37: Goringe substantially disclosed the invention as claimed. However, Goringe was displaying the collective network performance statistics to a user in real-time. However, it should be appreciated the main purpose of collecting performance information of communication devices over the network is to present such findings to a user/administrator. Nevertheless, even if Goringe did not explicitly mention the function of displaying the statistics to a user in real time, such a feature was commonly known in the art at the time of the invention (For example, see cited art, U.S. Patent Number 6269401 issued to Fletcher et al., Abstract, *"...a computer system of a communication network measures and time-stamps network performance statistics and stores them in a memory unit within the computer system. The computer system also measures and time-stamps system performance statistics and system parameters and stores them in the memory unit within the computer system. The computer system reports the network*

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*performance statistics and the system information to a central computer system at specified time intervals. The central computer system correlates the network performance statistics and the system information for a specified time period based on the time-stamping and stores the network performance statistics and the system information in a memory unit within the computer system. The central computer system displays the correlated network performance statistics and system information to a user in response to the identification of a perturbation in the communication network, where the correlated network performance statistics and system information are displayed for a time interval contemporaneous with the perturbation, so that the user can integrally analyze the information.”* furthermore, see Fletcher, Column 3, Lines 2-63). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Fletcher and have modified the teachings of Goringe “enables the network manager to integrally view corresponding network performance statistics and system information for a selected time interval, or for the time interval corresponding to the identification of a perturbation in the communication network” (see Fletcher, Column 25, Lines 17-21).

As per claim 38: The already combined teachings of Goringe and Beigi disclosed that each of the network devices receive routing communications from other ones of the network devices that support performance monitoring of a network, generate a data structure to

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identify the network devices that support performance monitoring, and send one or more performance probes to at least one of the network devices identified by the data structure to collect performance information (Goringe, Column 13, Lines 3-10, Figs. 18-21 and Column 9, Line 64 through Column 10, Line 60, table (data structure) constructed based on the communication devices determined to support performance monitoring including therein routing information of all discovered communication devices using the routing protocols and see Beigi, Abstract, Fig. 2 # 217, Fig. 4 # 405 →409, Fig. 8, # 805→809, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 39: wherein each of the network devices exchange the routing communication via one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Intermediate System - Intermediate System (ISIS) (See Goringe, Column 14, Lines 41-46).

As per claim 40: The already combined teachings of Goringe and Beigi disclosed that each of the network devices collect performance information by sending performance probes to at least a portion of the set of network devices, receiving responses to the performance probes, and adding timestamps to the responses to indicate the time of reception of the responses (Beigi, Column 7, Lines 26-35 and Column 8, Lines 30-56).

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As per claim 42: Goringe substantially disclosed the invention as recited in claim 41 above. However, Goringe was silent about “sending the performance probes to the network devices of the community to collect network performance statistics, wherein each of the performance probes include a timestamp indicating a time at which the respective one of the performance probes was sent”. However, as evidenced by the teachings of Beigi, sending the performance probes to the network devices of the community to collect network performance statistics, wherein each of the performance probes include a timestamp indicating a time at which the respective one of the performance probes was sent was known in the art at the time the invention was made (see Beigi, Abstract, Fig. 2 # 217, Fig. 4 # 405 → 409, Fig. 8, # 805 → 809, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 10, Lines 10-17 and Column 11, Lines 4-8). Thus, it is respectfully submitted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Beigi related to generating and sending probes to a network communication device to collect network performance statistics and have modified the teachings of Goringe in order to allow “proactively monitor the delays between two access points belonging to a customer to verify if the delays exceed the desired bounds”, by performing “a continuous monitoring of network performance” to “determine the level of service provided and/or to

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determine if there are any problems between two network access points” (Beigi, Column 2, Lines 9-17.

As per claim 43: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring service card receives a response to the performance probe from the network device, adds a timestamp to the response to indicate the time of reception of the response, and stores information contained in the response (Beigi, Column 2, Lines 33-58, Column 4, Lines 1-22, Column 7, Lines 26-35 and Column 8, Lines 30-56, Column 10, Lines 10-17 and Column 11, Lines 4-8).

As per claim 44: The already combined teachings of Goringe and Beigi disclosed that the performance monitoring service card receives an inbound performance probe from the network device and sends a response to the inbound performance probe, wherein the response to the performance probe includes the received performance probe and a timestamp indicating the time of reception of the inbound performance probe (Goringe, Column 3, Line 19 through Column 4, Lines 17 and Beigi, Column 7, Lines 26-35 and Column 8, Lines 30-56).

As per claim 45: wherein the routing protocol comprises one of Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Intermediate System - Intermediate System (ISIS) (See Goringe, Column 14, Lines 41-46).

**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. Engel et al. (US 6115393 A) entitled: "Network monitoring"
  - b. Diebboll et al. (US 5886643 A) entitled: "Method and apparatus for discovering network topology"
  - c. Leong et al. (US 6269398 B1) entitled: "Method and system for monitoring remote routers in networks for available protocols and providing a graphical representation of information received from the routers"
  - d. Richardson (US 6271845 B1) entitled: "Method and structure for dynamically drilling down through a health monitoring map to determine the health status and cause of health problems associated with network objects of a managed network environment"
  - e. Fletcher et al. (US 6269401 B1) entitled: "Integrated computer system and network performance monitoring"
  - f. Martin (US 6744739 B2) entitled: "Method and system for determining network characteristics using routing protocols"
  - g. Goringe et al. (US 7200122 B2) entitled: "Using link state information to discover IP network topology"

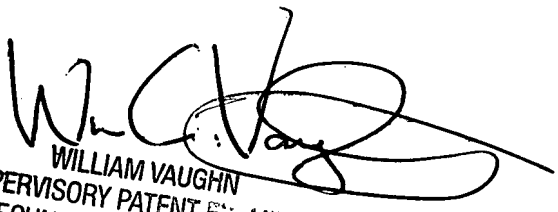
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yemane M. Gerezgiher whose telephone number is (571) 272-3927. The examiner can normally be reached on 9:00 AM - 6:00 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Y. Gerezgiher  
Patent Examiner  
AU: 2144, TC: 2100

  
WILLIAM VAUGHN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER